February 26, 2015

Mr. Eugene Bromley
EPA Region IX, Water Division
75 Hawthorne Street
San Francisco, CA 94105

Subject: Online Oil and Grease Monitor Evaluation for Produced Water
Beta Offshore - Platforms Elly, Ellen and Eureka:

On March 1 of 2014, the new General NPDES Permit CAG280000 required the installation of an online monitor to track oil and grease levels in the produced water that is being discharged for all platforms covered under the permit. The language reads as follows (as defined in Part II.G.6):

For all permittees that may discharge produced water, within one year of the effective date of this permit, the permittee shall do either of the following:

a. Install on-line monitoring equipment along with operating procedures ensuring that the operator is provided with rapid information concerning potential noncompliance with the effluent limits in this permit for oil and grease in produced water as follows:

1) for platforms with an average daily produced water discharge greater than 100,000 gal/day in the year prior to the permit effective date, install equipment providing real-time information or with a brief lag time such as one hour, or

2) for platforms with an average daily produced water discharge less than or equal to 100,000 gal/day in the year prior to the permit effective date, install equipment providing real-time information or with a lag time such as four hours, or

b. Provide information to Region 9 demonstrating that the operator has already installed monitoring equipment along with operating procedures meeting the above objective in 6.a.

The following report summarizes current operating and monitoring procedures that demonstrate compliance with condition b. above: "Provide information to Region 9 demonstrating that the operator has already installed monitoring equipment along with operating procedures meeting the above objective in 6.a."

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Production Operating Procedures:

Beta Offshore operates three platforms in the southern California area. Platforms Eureka and Ellen send their production fluids to Platform Elly for treatment. Produced water is separated from the gross fluids via oil/water separators and the water is further treated through clarification and filtration equipment prior to being injected back into the production formation. On rare occasions (once or maybe twice per year) produced water is discharged to the ocean under the NPDES Permit CAG 280000 at Platform Elly only. This generally occurs when the injection or water treatment process is offline for maintenance. Historically, over the past several years there have been between 50 - 1100 bbls of water per day discharged which happened only a few times in a given year. As a result, Platform Elly falls under condition a.2 above: "for platforms with an average daily produced water discharge less than or equal to 100,000 gal/day in the year prior to the permit effective date, install equipment providing real-time information or with a lag time such as four hours.

Produced Water Oil and Grease Monitoring and Operating Procedures:

Platform Elly has historically used a spectrophotometer which is a colorimetric procedure to monitor oil and grease levels in the produced water on a daily basis. More recently, Platform Elly purchased a new Spectrophotometer (DR 3900), to update the monitoring technology. This meter is used to test the water for injection quality and also screen the water for compliance if it's temporarily diverted to the outfall. The test procedure includes a solvent extraction to concentrate any residual oil and grease from within the produced water and the spectrophotometer reads the color transmittance as oil and grease in estimated ppm; (the actual test procedure is available upon request). To obtain a better correlation between the two test methods, a conversion curve was generated by comparing the spectrophotometer value directly to a set of duplicate EPA 1664 O&G test results (refer to the attached Oil and Grease Conversion Graph). All samples collected for this comparison were obtained from non-NPDES sample points collected upstream of the last treatment vessel. By using this test comparison procedure, Platform Elly can better estimate the oil and grease content of the water using onsite colorimetric technology and the test can be completed within 15-30 minutes of collecting the sample. This easily meets the above permit requirements in condition a.2 "install equipment providing real-time information or with a lag time such as four hours." (Produced Water Operating and Monitoring Procedures are available upon request).

Platform Elly is expected to continue to inject the produced water throughout the remainder of the permit and if there are any discharges to the ocean, monitoring procedures outlined above will be performed to maintain NPDES compliance. If you have any questions or require additional information please contact Marina Robertson at (562) 683-3497.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are

significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Sincerely,

Marina Robertson/gr

Marina Robertson

HSE Manager

Beta Offshore Elly Sepctrophotometer vs 1664 EPA O&G

Sample Dates	DR 3900	EPA Lab 1664	
1/10/2015	161	36	
	63	15	
	62	22	
	41	18	
	34	10	
	18	9	
	5	14	
	30	14	
1/22/2015	122	22	
	2	15	
	0	19	0 values excluded
	0	19	0 values excluded